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### THE EFFECT OF BAYER STRATEGY IN DEVELOPING CRITICAL THINKING SKILLS FOR SECOND GRADE INTERMEDIATE STUDENTS IN ARABIC LANGUAGE

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**Key Words : Bayer Strategy, Critical Thinking Skills, Intermediate Stage, Arabic.**

#### **ABSTRACT**

The study was conducted at the University of Babylon / College of Basic Education and aims to identify (the impact of Bayer's strategy in the development of critical thinking skills for second grade students in the Arabic language) and to achieve the goal of the research adopted the experimental approach as it included one variable (Bayer strategy) and a dependent variable (skills test). The researchers adopted the experimental design with partial control to control the variables of research, and before starting the application of the experiment rewarded the two research groups to obtain accurate results, and prepared the research requirements and then studied the experimental group according to (Bayer strategy) and the group Duck (according to the (normal method) after the completion of the application of the experiment, and then the researchers applied a test of critical thinking skills as these data were treated statistically by the test (t-test) for two independent samples. The results showed that the experimental group studied according to the Bayer strategy over the group The officer who studied in the usual way.

#### **INTRODUCTION**

Scientific interest in the subject of thinking increased significantly in the second half of the twentieth century, especially in the eighties of it, where it represented interest in many lists of thinking and educational programs, and exerting great efforts, and spending a lot of money, and conducting much needed research and educational and psychological applications in accordance with the principles of Education aiming at all dimensions to organize thinking among learners, and benefit from their creative energies and investment by providing services and programs that meet their needs, and help them to develop properly, where thinking is an essential tool in the acquisition of knowledge, Educational

systems are no longer aims to fill the minds of students with the knowledge and facts only, but also to the work on the development of thinking; to enable the individual to deal with the requirements of contemporary life (Abu Gado, Mohammed Bakr Novell 2007: 29)

A number of educators believe that if innovative thinking is to find possible solutions to problems or to find possible explanations for phenomena, critical thinking is a test of these solutions, and those interpretations are evaluated (Moore, 1955: 5). Educational institutions and teaching courses aim to achieve this goal and use appropriate strategies that will help students become critical thinkers with the ability to face problems in different life (Al-Otaibi, 2007: 19)

Teaching methods are an integral part of the three pillars of the teaching process. It adopts a limited strategy to accomplish an educational position within a given subject. This strategy means the pathway leading to the goal as learners can understand, understand and apply the content of the lesson. (Muhammad and Muhammad, 1991: 49)

The researchers believe that the success of the educational process depends on the success of the teaching method adopted by the teacher in the delivery of learning material to him and their minds, and must follow modern strategies in education and keep abreast of the developments of the age in which they live not to follow the usual methods that lead to stalemate and boredom.

The teaching strategy is of great importance in education, which called for the emergence of several strategies in education, including the Bayer strategy, which emerged in the mid-eighties of the twentieth century strategies to teach critical thinking and the strategy (Bayer) put forward by the Bayer educator (1985), which is one of the educational strategies being implemented Through the teacher to follow the following procedural steps:

- 1- Provide the skill by the teacher.
- 2- Explain the skill in theory.
- 3- .Demonstration of the skill
- 4- Discussion of the demonstration (review of what the teacher did)
- 5- Apply the skill in practice.
- 6- Reflective thinking about the student's work. (Abu Gado, Novell, 2007: 262)

Bayer assumes that any step in teaching any critical thinking skills is essential for effective learning for students (Sa'adeh, 2006: 122-124).

In this way, the researchers believe that the process of teaching thinking in general and critical thinking in particular is one of the main duties assigned to the teacher, and by providing a good atmosphere, and accustoming students to sound scientific thinking and encourage them to ask questions about the information and ideas presented and discussed.

### ***Research problem***

The lack of interest in reading, which is one of the branches of the Arabic language in our schools, is still treated as non-essential. It did not give as much attention as the other sections, as well as the lack of interest in the listening picture in its lessons (Al-Hashemi, 2002: 1).

Some attributed the weakness of the students in this article to several factors, especially the methods adopted in teaching, most of them rely dictation and indoctrination, memorization of the content and stand when the reader, and remember and emphasize the fragmentation of knowledge (Abdel Aoun, 2013: 226).

From this all the problem of the current research as well as the researcher's experience in the field of teaching. , And retrieved, and this is contrary to what advocated by modern educational studies that advocate the need to develop their mental abilities, and improve the level of students in all areas of knowledge, emotional and skills.

Therefore, the researchers considered an attempt to experiment with a modern experimental strategy in the teaching of reading texts in the textbook of Arabic language to be taught in the second grade medium, which is a Bayer strategy to encourage students to understand the material and develop critical thinking.

### ***Research Objectives and Hypotheses***

The current research aims to identify the impact of strategy, and Bayer in the development of critical thinking skills and achievement of second grade students in the subject of Arabic language To achieve the research objective, the researchers formulated the following hypothesis:

-There is no statistically significant difference at the level of significance (0.05) between the average achievement of students of the second experimental group who study Arabic language according to the strategy of Bayer, and the average score of students of the control group who study according to the usual method of testing critical thinking.

### ***Search limits***

The current research is limited to the following:

A - Human Limit: A sample of the second grade students average.

B - spatial limit: one of the secondary and middle day schools for girls in the province of Babylon / center of the province

C - time limit: the second semester of the academic year (2018-2019)

D - Objective limit (cognitive): six topics from the book of Arabic language, which is taught in the second grade intermediate.

### ***Define terms***

(Shehata and Zeinab): "the outcome of a desirable or undesirable change occurs in the learner as a result of the education process" (Shehata and Zeinab, 2003: 22.)

### ***The strategy:***

Al-Titi defined it as: "The set of general rules and guidelines that are concerned with the means to achieve the desired goals" (Al-Titi, 2008: 148).

### ***Bayer Strategy:***

Known: Abu Jadu, and Mohammed Bakr Nofal: It is an educational strategy - direct learning to teach critical thinking, start by providing the skill by the teacher by showing them to the students for the process of learning, and then employ them in different situations of life, ie (the transfer of the impact of learning) They include: Presenting the skill, explaining it in theory, demonstrating it, discussing the presentation, and reflecting on the students' work (Abu Jadu and Mohammed Bakr Nofal, 2007: 262).

### **DEVELOPMENT**

Shehata defined it as raising students' performance in different learning situations, and development is determined by increasing the average grades they receive after training on a specific program (Shehata, 2003: 157)

Skill: Known: Fatlawi as: "the ability to perform a certain work accurately and proficiency" (Fatlawi, 2006, p. 349.)

Critical Thinking: Defines it as a type of thinking based on examining the solutions given to a problem to indicate whether these solutions are acceptable, logical and consistent with known data in the field of the problem. (Waqfy, 2003: 507)

### ***Second Grade Intermediate***

It is the second grade of the intermediate stage after the primary stage in Iraq and the duration of the study in which three years and its function of preparing for working life or for the preparatory study (Republic of Iraq, 1984: 4)

### ***Theoretical aspects***

Critical thinking is one of the types of effective thinking because of its importance in reading and its impact on hearing, it is in complex thinking processes involving more than just recall information or ideas from memory, but find the relationship between diverse ideas or link between causes and causes, and results and events or Analyze and synthesize ideas and does not include a specific area, but in public life situations. (Adass, 1998, p. 189) critical thinking skills In 1989, Jacobson and others classified Thinking Skills into three main levels:

- 1- Essential Cognitive Processes, including comparison, conclusion, hypothesis, induction, and reasoning.
- 2- High cognitive processes (High Order Processes) and includes problem-solving, judgment, critical thinking, and innovative thinking.
- 3- Meta Cognitive Processes (Ramadan and Farouk, 1993, p. 54)

Thus, when the individual moves from one level to another, he is able to the level that he accepted.

Students should be able to think clearly and be able to use the basic tools of critical thinking in any field of study, which are the basic tools of organized thinking in each subject. Students' ability to think critically is a pre-requisite for understanding the cognitive content of school subjects (Costa, 1986, p: 20)

### *Previous studies*

The researchers dealt with a number of previous studies related to the subject of the study and presented as follows:

#### *Dulaimi (2013)*

The impact of Bayer strategy in teaching reading to fifth grade literary students in the development of critical thinking skills and language communication. The study was conducted at Diyala University College of Basic Education and aimed at the impact of Bayer's strategy in teaching reading to fifth grade literary students in the development of critical thinking skills and linguistic communication, the researcher adopted the experimental method, and the research sample reached (61) students (30) students for the experimental sample that studied Bayer strategy And (31) student of the control group, which studied the usual way, rewarded the researcher with a number of variables for the two groups, and then decided (test Jumaili 2004) for critical thinking, then prepared a test of the four language skills and the researcher conducted a pre-test of critical thinking skills and a test after. After the completion of the experiment as well as the test of language skills, and reached the experimental group studied according to the strategy of Bayer than the control group studied according to the usual method, (Dulaimi, 2013: RG)

#### *Nassar Study (2015)*

The effect of Bayer strategy on the attainment of the first middle graders in the general geography subject and direction. The study was conducted at the University of Babylon College of Basic Education and aimed to identify the impact of Bayer's strategy in the achievement of students of the first intermediate grade in the subject of general geography and direction, and to achieve the goal the researcher formulated two research hypotheses, and to achieve this researcher chose a pilot design with partial control, and randomly selected his research sample that The number of (64) students, and (32) students for each of the two groups, the researcher conducted a parity between the students of the research groups (experimental and control), the researcher identified the scientific material, the researcher prepared an achievement test and the scale consists of (30) paragraphs, and after the researcher has achieved Their sincerity and stability were valuable together For the link (0,90) and Homaaml D stability and good, final results showed the superiority of the experimental group students on the control group students in the test (Nassar 2015: t-g)

#### *Mohammed's study and Samah Mohammed Obaid (2017)*

The effectiveness of the Bayer strategy in the development of reasoning among the fifth grade students in history.

The study was conducted at the University of Baghdad / College of Education and aimed to identify the effectiveness of Bayer strategy in the development of reasoning thinking in the fifth grade literary students in history, the researcher adopted the experimental approach with partial control, the sample reached (84) female students of the fifth grade literary (43) A student of the experimental group that will study according to the Bayer strategy and (41) students of the control group that will study according to the usual method, the researchers conducted a parity between the two research groups (experimental and control), and the researchers identified the scientific material, and then the researchers prepared an achievement test to measure the level of student achievement After completing the experiment, it consists of (20) test items of multiple choice type for three alternatives to measure inductive thinking, and to verify its reliability and reliability. The researchers used the T test to analyze the results. The final results showed that the experimental group students were superior to those of the control group in the test. The researchers recommended the necessity of adopting the deductive thinking of the different stages of education to include curricula and methods (Mohammed study, Samah Mohammed Obaid, 2017: 447-475)

See researchers through the previous studies that it addressed the strategy of Bayer, as an independent variable, as a variety of places to conduct studies, including conducted in Iraq and conducted in Saudi Arabia and conducted in Jordan and Egypt, and the current study agreed with the studies conducted in Iraq, and all studies agreed on The experimental group that used the Bayer strategy was superior to the group that used the usual method.

**Research methodology and procedures**

The research is the current experimental educational research has chosen the experimental design of two experimental groups, the first experimental exposed students, and the second group control, **shape (1)**.

**Shape (1)** Experimental design of research

Group	Pre-test	Independent variable	Test after	The dependent variable
<b>Experimental</b>	Critical Thinking Test	Bayer model	Critical Thinking Test	Develop critical thinking
<b>Controlling</b>		Ordinary method		

**Research community and sample**

Determining the research community is one of the important methodological steps in educational research. The sample is part of the society chosen according

to scientific rules and principles to represent the society properly (Dawood, 1990: 67)

The researchers selected the research sample randomly in the center of the province of Babylon and chose the medium Khadija grand for girls to apply their research and in the same way chose the experimental group (Division B), which will be exposed to the students independent variable (Bayer model) and Division (A) control group, which will be exposed to the second independent variable. The number of female students in the research sample was (63), (32) of the first experimental group and (31) in the control group. The researcher excluded the three (3) female students who failed according to table (1). They have SABB expertise Of all the topics that will be examined in the experiment, which may affect the accuracy of the search results, or in the internal integrity of the experience, bringing the number of female students sample search after exclusion (60 students), and **Table (1)** illustrates this.

No.	Group	Section	Total no. of girl pupils	No. of failed pupils	Final no. of pupils
1	Experimental	C	32	2	30
2	Controlling	A	31	1	30
Final total			63	3	60

### *Equal groups*

Before starting the experiment, the researchers were keen on the equivalence of the three research groups in some variables that may affect the results of the experiment. These variables are:

- 1) The chronological age of female students in months.
- 2) Arabic language grades in the mid-year exam for the academic year 2018-2019
- 3) Academic achievement for parents.
- 4) Academic achievement for mothers.
- 5) Tribal Critical Thinking Test.

The researchers applied the pre-critical thinking test to the students of the research groups to measure the critical thinking. And (28,80), respectively, and after the statistical deal, to find out the significance of the difference in the critical thinking test scores using the T value, it turned out that the difference is not statistically significant at the level (0.05), where the calculated T value (0.890) Is smaller than the tabular value (2) and two degrees of freedom (58) This indicates that the two research groups are (2) shows that.

**Table (2):** Critical thinking test scores for students of both research groups

Group	No. of individuals	Math. Average	Criterion deviation		Next value	Level of evidence
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	in the sample			Degree of freedom	Calculated	Tab.	
Experimental	30	30.47	6.65	58	0.89	2	0.05 has no evidence
Controlling	30	28.80	8.89				

**Measurement tool**

The researchers used a unified tool to measure the achievement of students of the research groups, (the test of critical thinking skills)

**Critical Thinking Test**

The researchers reviewed a number of tests that were built on critical thinking and some literature related to this topic. The researcher identified critical thinking skills in light of the Watson test: (Conclusion - Assumptions - Deduction - Interpretation - Evaluation of Arguments). In the educational and psychological field, as well as the most honest and stable (Buros, 1972, P: 1214), so the researchers formulated the terms of the critical thinking test based on the mental abilities of female students, and in accordance with the requirements of her current research, the test included (20) test stand as follows :

- 1) Conclusion: It includes (4) paragraphs, and placed before it three alternatives (true - missing data - incorrect.)
- 2) Assumptions: It includes (4) paragraphs, and placed before it two alternatives (Ward, not Ward).
- 3) deduction: It includes (4) paragraphs, and placed before it two alternatives (arranged, not arranged.)
- 4) -Interpretation: It includes (4) paragraphs, and placed before it two alternatives (true, incorrect)
- 5) Evaluation arguments: It includes (4) paragraphs, and placed before it two alternatives (strong, wea)
- 6) The researchers gave an illustrative example of the answer to each test situation.

**Validity test**

The test can be considered valid if presented to a number of specialists or experts in the field measured by the test and ruled that it measures the behavior developed to measure it efficiently (Al-Zeyoud and Olayan, 2005, p. 143). In the Arabic language and methods of teaching to express their opinions and suggestions, and in the light of the agreement of 80% of the arbitrators, the researcher amended some paragraphs, the test has become in its final form, consisting of (20) test stand.

**Scouting app for testing**



The researcher applied the test to a sample of (38) second grade students in the preparatory school for girls, after making sure to complete the subjects prescribed.

Ensure the clarity of test positions and paragraphs, and determine the test time.

***Stability***

The researchers chose the method of re-testing to calculate the stability of the critical thinking test. One) for the correct answer for each test paragraph and (0) for the wrong answer, and using the Pearson correlation equation, the total stability coefficient was 0.88, which is an acceptable stability coefficient for such a test and table (3) shows the stability coefficients.

**Table (3)** Stability coefficients of capabilities

Conclusion	0.86
Assumptions	0.84
Deduction	0.89
Explanation	0.85
Evaluation arguments	0.86

***Procedures for applying the experiment***

After the researchers applied the critical thinking test to the students of the two groups corrected the answers, giving (one score) for the correct answer, and (zero) for the incorrect answer or paragraph carrying more than one answer and the maximum score for the critical thinking test (45) degree, and the minimum score (zero)

***Statistical means***

The researcher used the statistical program spss to apply the following equations:

T-test and Pearson correlation coefficient.

***View and interpret results***

***View results***

From the results of the critical thinking test, the average achievement of the experimental group (39.73), the standard deviation (9.73), the average achievement of the control group (27.87) and the standard deviation (6.97).

**Table (4)** Arithmetic mean and standard deviation of the scores of the students of the two research groups in the critical thinking test after

Group	No. of individuals in the sample	Math. Average	Criterion deviation	Degree of freedom	Next value		Level of evidence
					Calculated	Tab.	
Experimental	30	39.73	9.73	58	5.84	2	0.05 has evidence
Controlling	30	27.87	6.97				

It is clear from Table (4) that there are statistically significant differences between the two research groups in favor of the experimental group as the calculated value was (5.84) which is greater than the tabular **value (2)**.

***Interpret the results***

The results showed that the experimental group students were superior to those of the control group in the critical thinking test. The reason can be attributed to:

- 1) The effectiveness of Bayer's strategy contributed to stimulate students to think critically and creativity.
- 2) Bayer's strategy has played an important role in the development and strengthening of critical thinking skills of students.
- 3) Bayer's strategy led to the interaction of students with the lesson, prompting students to think and exercise critical mental processes to reach the answer.
- 4) Bayer's strategy helped students to understand and understand and absorb information and save.
- 5) The effectiveness of Bayer's strategy in the development of language communication between students and their teachers.

**CONCLUSIONS**

In the light of the search results, the researchers can conclude the following:

Teaching in accordance with the Bayer strategy led to the development of critical thinking processes for fifth graders.

The effectiveness of the Bayer strategy in teaching reading material reflected positively on the achievement of fifth grade literary students.

The use of Bayer strategy is in line with the emphasis on the positive role of the learner because it is the main axis in the educational process advocated by modern education.

***Second: Recommendations***

In the light of the research findings and conclusions, the researchers recommend the following:

The need to use the Bayer strategy in teaching reading material, because of its impact on the development of critical thinking among students.

familiarize teachers of Arabic language and teachers on modern teaching strategies and the foundations of teaching.

the need to train students in the preparatory stage on the development of critical thinking skills in various educational situations.

### **Sources:**

- Abed Aoun, Fadel Nahi (2013). Methods of teaching Arabic language and methods of teaching it. Dar Safaa Publishing & Distribution, Jordan - Amman.
- Abu Jadu, Saleh Mohammed Ali and Mohammed Bakr Nofal (2007) teaching thinking (theory and practice), I 1, Dar Al-Masirah for publication, distribution and printing, Amman, Jordan.
- Adas, Abdul Rahman (1998). Teaching reading between school and home, 1st floor, Dar Al Fikr for Printing, Publishing and Distribution, Amman.
- Al-Dulaimi, Sarah Kamel Ahmed, (2013) the impact of Bayer's strategy in teaching reading to fifth grade literary students in the development of critical thinking skills and linguistic communication, Diyala University, College of Basic Education, unpublished master thesis(
- Al-Otaibi, Nawal Bint Saad, (2007) the effectiveness of the use of the learning cycle method in the achievement of mathematics and the development of critical thinking skills of second grade students in the city of Mecca, an unpublished master thesis, College of Education, Umm Al-Qura University, Saudi Arabia.
- Al-Titi, Mohammed Issa, (2008) Social Education and its Teaching Methods, World of Culture, Amman - Jordan.
- Al-Zyoud, Nader Fahmi and Hisham Amer Alayyan, (2005) Principles of Measurement and Evaluation in Education, 3rd edition, Dar Al-Fikr for Publishing and Distribution. .
- Buros, P.(1972) The seventh mental measurement year book.vol(11).New York. cryphon press.
- Costa, A. (1985). **Developing Minds: A Resource Book for Teaching Thinking**. Alexandria, Virginia, ASCD.
- Daoud, Aziz Hanna and Anwar Hussein Abdul Rahman (1990), educational research methods, Ministry of Higher Education and Scientific Research, University of Baghdad, House of wisdom for printing and publishing, Baghdad.
- Fatlawi, Suhaila Mohsen Kazem (2006) Curriculum and Effective Teaching, 1st Floor, Dar Al-Shorouk for Publishing and Distribution, Amman, Jordan.
- Hashemi, Abdul Rahman Abdul Ali (2002). "The Effect of Reading Type on the Achievement of Reading Comprehension Skill for Sixth Grade Students", unpublished research,
- HE, Jawdat Ahmed. (2006) Teaching skill thinking with hundreds of applied examples, Dar Al-Shorouk, Amman, Jordan.
- Mohammed Daoud Maher and Mohammed, Majid Mahdi (1991), Fundamentals in General Teaching Methods, Dar Al-Hikma Printing Press, Mosul, Iraq.
- Mohammed, Shaker Mohammed, and Samah Mohammed Obaid, (2017) the effectiveness of Bayer's strategy in the development of inferential thinking among the fifth grade literary students in history, Journal of Educational and Psychological Research, No. / 54.
- Moore, W. E. and McCann, H. or McCann, J. **"Creative and Critical Thinking"** .2<sup>nd</sup> ed , New jersey's ,Houghton Mifflin Company , 1955 .

- Nassar, Ali Taqi Abbas (2015), the impact of Bayer's strategy on the attainment of the first grade middle school students in the subject of general geography and direction, Babylon University, College of Basic Education, (an unpublished Master(
- Republic of Iraq, Ministry of Education (1984), Secondary School System, No. 2 of 1977 as amended, Baghdad.
- Shehata, Hassan, and Zainab Al-Najjar (2003). Dictionary of educational and psychological terminology, i 1, Dar Shadow, Cairo, Egypt.
- Waqfy, Ahmad (2003): How to manage the thinking process, working paper, the seventh conference of educational research, Amman, Jordan.